Impact Resistant Lagging® (IRL®)

To protect mine personnel, belts, moving vehicles and other facilities, mine operators typically install steel structures such as square or arch sets in roof fall areas. Wood lagging is usually installed between the steel sets to enclose the area and protect the entry from recurring falls. JENNMAR, along with JENNMAR Engineering our affiliate engineering company, have designed, tested and developed the Impact Resistant Lagging® (IRL®) system to protect steel sets. Various steel sets that are protected with IRL panels have been approved by MSHA and installed in several underground roof fall rehabilitation projects.

The IRL panel consists of the following components:

V-Deck Panel

Galvanized V-Deck Panel (18 × 46" × 12 gage) is used to provide primary flexural strength. Two clips are attached to facilitate easy installation of the lagging panel to the upper flange of the beam.

Special Lagging Block (SLB)

Special Lagging Blocks are comprised of two pieces of medium-soft wood (6 × 6 × 46") that are attached to the V-deck panel. The blocks provide additional flexural strength to the system, absorb impact energy, distribute impact load over a larger area of the V-deck panel and extend the duration of impact.

Cushion Inserts

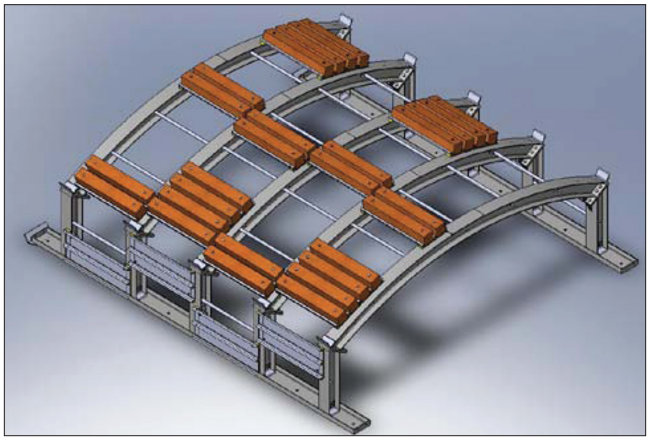
Two pieces of hard foam strip (0.5" thick) are installed between the V-deck panel and the flange of the W-beam. The foam strips act as a cushion, increase impact duration and reduce the magnitude of the instantaneous impact load on the system.

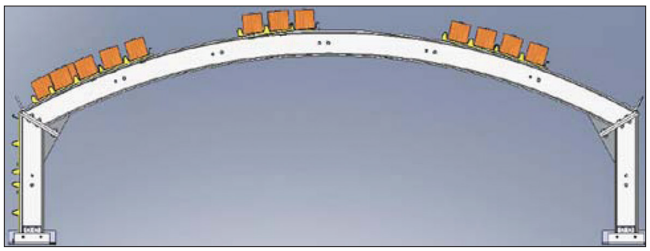
Surface Coating

A thin layer of water-proof bonding coating is applied to the surface of the Special Lagging Blocks. The tough-textured coating provides necessary protection against water, acid, chemicals, UV exposure, salt water, abrasion, fire and freeze-thaw. This coating dramatically extends the life span of the SLB when compared with plain wood blocks.

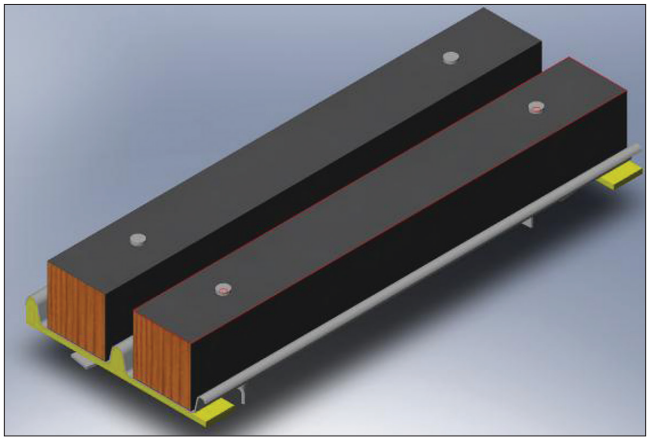
Advantages

- Provides sufficient flexural strength and acceptable cushioning effect
- Corrosion resistant
- Cost effective
- Easy material handling and installation





Impact Resistant Arch Set Design for Roof Fall Rehabilitation



Impact Resistant Lagging Panel